

Remarks

Applicants appreciate the Examiner's withdrawal of the rejection of claims 32 and 35-37 under 35 U.S.C. § 103(a).

Submission of Substitute Sequence Listing

A sequence listing was filed on April 10, 2001 on two identical CD-ROMs. That sequence listing contained those sequences explicitly disclosed in the specification, as well as the entire nucleotide sequence of each of the 16 chromosomes of the *Saccharomyces cerevisiae* genome, as required in parent application Serial No. 09/012,031. However, the sequence listing filed April 10, 2001 inadvertently did not include the sequences of each of the NORFs comprising the SAGE tags shown in SEQ ID NOS:67, 68, 70, 71, 72, 83, 91, and 93 (NORFs 1, 2, 4, 5, 6, 17, 25, and 27, respectively); these sequences were included in the sequence listing filed in parent application Serial No. 09/012,031.

Three copies of a substitute sequence listing accompany this amendment: two CD-ROMs in lieu of a paper copy under 37 C.F.R. § 1.821(c) and one CD-ROM for use as the computer readable form. The substitute sequence listing contains the same sequences as the original sequence listing filed April 10, 2001 as well as the sequences of NORFs 1, 2, 4, 5, 6, 17, 25, and 27 (SEQ ID NOS:12,220-12,227, respectively).

I believe the contents of the substitute sequence listings on the three CD-ROMs are identical and do not add new matter to the specification.

The Amendments

Claims 32, 45, 49, and 50 are amended to correct the sequence identifier of NORF 5. The specification is amended to insert sequence identifiers for NORFs 1, 2, 4, 5, 6, 17, 25, and 27.

These amendments do not add new matter.

The Rejection of Claims 32, 35-37, and 45-50 Under 35 U.S.C. § 101

Claims 32, 35-37, and 45-50 stand rejected under 35 U.S.C. § 101. Applicants respectfully traverse the rejection.

The claims are rejected as lacking patentable utility for two reasons stated in previous office actions. First, the U.S. Patent and Trademark Office has asserted that “the application does not disclose that each of the NORFs identified by the SAGE tags mentioned in the claims is indeed differentially expressed during the cell cycle” (*e.g.*, Paper 18, page 2 lines 10-11). Second, the Office asserted that “it does not necessarily follow that each of the 14-mers contained in each of the so-identified NORFs is found only in DNAs that are differentially expressed during the cell cycle” (*e.g.*, Paper 18, page 2, lines 14-16).

In the last response filed October 1, 2003, Applicants amended the pending claims to recite one particular open reading frame that is disclosed in the specification as differentially expressed during the cell cycle: NORF 5. See the specification at page 6, line 31 (“Genes which have been found to have differential expression characteristics include: NORF N^o 1, 2, 4, 5, 6, 17, 25, 27. . .”). Applicants also amended the claims to recite “at least 18 contiguous nucleotides” of NORF 5 and provided the results of “batch blasts” of all NORF 5 18mers carried out against each of the 16 *Saccaromyces cerevisiae* chromosomes shown in SEQ ID

NOS:12,204-12,219. This evidence demonstrated that a probe of at least 18 contiguous nucleotides of NORF 5 is sufficiently long to uniquely identify NORF 5 in the *Saccharomyces cerevisiae* genome.

The Office Action mailed December 16, 2003 found this argument unconvincing because the pending claims mistakenly identified SEQ ID NO:71 as the sequence of NORF 5. SEQ ID NO:71 is not the coding sequence of NORF 5 but rather the SAGE tag that identifies NORF 5.

Applicants have corrected this inadvertent error. Independent claims 32 and 45 and dependent claims 49 and 50 now recite SEQ ID NO:12,223. SEQ ID NO:12,223 is the coding sequence for NORF 5. This sequence is disclosed in the substitute sequence listing submitted together with this amendment as well as in the sequence listing filed in parent application Serial No. 09/012,031, whose disclosure is incorporated by reference in the present application. See the present specification at page 1, lines 2-4.

The claims as amended have patentable utility. Each of the pending claims recites a NORF that is differentially expressed during the cell cycle and a probe length sufficient to uniquely identify the recited NORF.

Applicants respectfully request withdrawal of the rejection.

The Rejection of Claims 32, 35-37, and 45-50 Under 35 U.S.C. § 112, second paragraph

Claims 32, 35-37, and 45-50 stand rejected under 35 U.S.C. § 112, second paragraph.

Applicants respectfully traverse the rejection.

The Office Action contends that the pending claims are vague and indefinite because SEQ ID NO:71 has fewer than the "18 contiguous nucleotides" recited in the pending claims. As explained above, Applicants have corrected the erroneous sequence identifier in the claims. The pending claims now recite SEQ ID NO:12,223, which is 207 nucleotides in length. Thus, the claims as amended are definite.

Applicants respectfully request withdrawal of the rejection.

Respectfully submitted,
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